

N-type

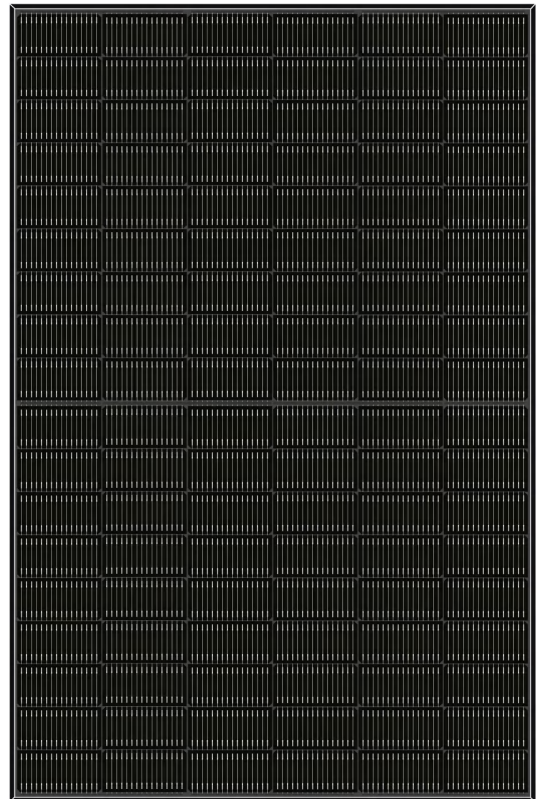
Mono Module

435-470W | Power Output

0~5W | Pmax Tolerance

23.52% | Maximum Module Efficiency

- IEC61215: 2021
IEC61730: 2023
- TUV Rheinland Standard
ISO9001:2015
- Quality Management System
ISO14001:
- Environmental Management System
CE: Europe Standard



25Years Enhanced Product Warranty on Materials and Workmanship 30Years Linear Power Performance Warranty



Outstanding Low Light Performance

Higher power output even under low-light environments like on cloudy or foggy days.



Better Temperature Coefficient

Higher power generation under working conditions, thanks to passivating contact cell technology



Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal)



10%-30% Additional Power Generation

30 years lifespan brings 10%-30% additional power generation comparing with conventional P-type module



Zero LID (Light Induced Degradation)

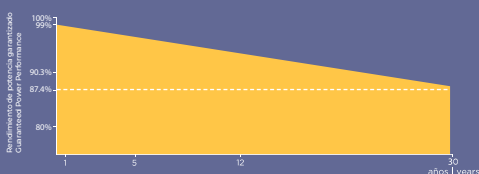
N-type solar cell has no LID naturally which can increase power generation



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control

GARANTÍA DE RENDIMIENTO LINEAL LINEAR PERFORMANCE WARRANTY



- * First year power degradation ≤1%
- * Annual power degradation (2-30 year) ≤0.4%
- * Power output until the 30th year ≥87.4%

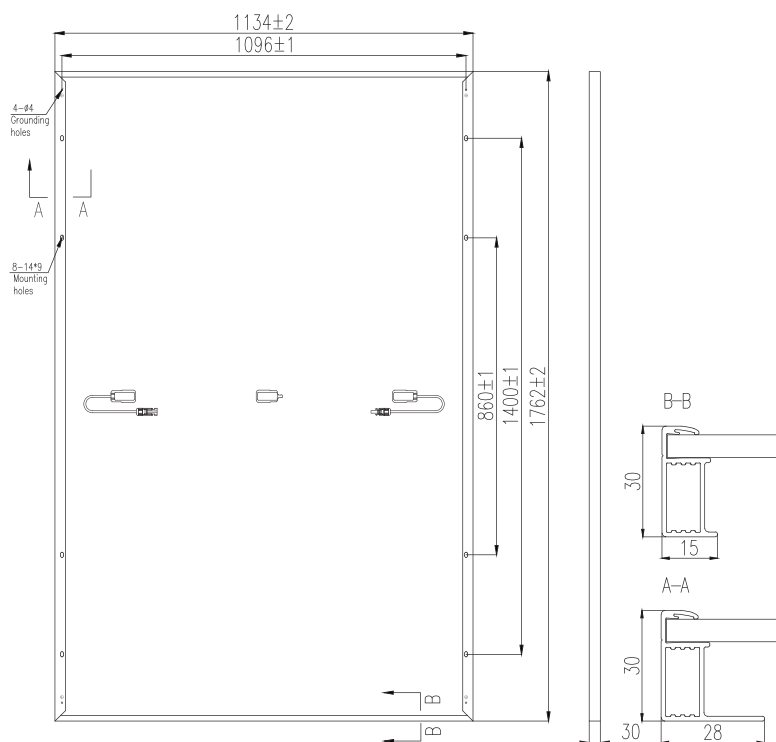
CERTIFIED
IEC
61730 Ed.1

CERTIFIED
IEC
61215 Ed.2



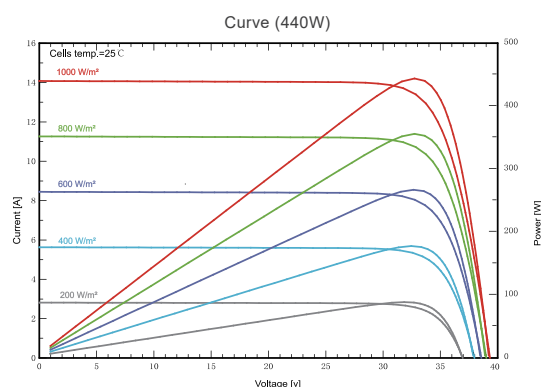
Anti-PID
System voltage durability
PPP 56042





Module Specification

Cell Type	108 [2 x (9 x 6)] / 182*94mm
Dimensions (mm)	1762*1134*30
Weight (kg)	23
Glass	3.2mm, Anti-Reflection Coating
Junction Box	IP68 (3 diodes)
Cables	TUV 1x4.0mm², (+):300mm/(-):300mm or Customized length
Connector Type	MC4-EVO2 / MC4 compatible



Electrical Specifications

Module Type	EX435TC-108		EX440TC-108		EX445TC-108		EX450TC-108		EX455TC-108		EX460TC-108		EX465TC-108		EX470TC-108	
Testing Condition	STC ¹	NOCT ²	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	435	333	440	337	445	341	450	345	455	349	460	353	465	357	470	361
Maximum Power Current (Imp/A)	13.40	10.98	13.47	11.05	13.54	11.12	13.61	11.20	13.68	11.27	13.75	11.34	13.82	11.41	13.89	11.48
Maximum Power Voltage (Vmp/V)	32.47	30.37	32.67	30.52	32.87	30.67	33.07	30.83	33.27	30.98	33.46	31.12	33.65	31.27	33.84	31.41
Short-circuit Current (Isc/A)	14.01	11.55	14.08	11.62	14.15	11.68	14.22	11.74	14.29	11.80	14.36	11.87	14.43	11.93	14.50	11.99
Open-circuit Voltage (Voc/V)	39.13	36.92	39.33	37.11	39.53	37.30	39.73	37.49	39.93	37.68	40.13	37.87	40.33	38.06	40.53	38.25
Module Efficiency (%)	21.77		22.02		22.27		22.52		22.77		23.02		23.27		23.52	

¹ STC: Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5

² NOCT: Irradiance 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s

Temperature Characteristics

Nominal Operating Cell Temperature (NOCT/°C)	42±2
Temperature Coefficient of Pmax (%/°C)	-0.310
Temperature Coefficient of Voc (%/°C)	-0.26
Temperature Coefficient of Isc (%/°C)	+0.046

Operating Conditions

Operating Temperature (°C)	-40 to +85
Maximum System Voltage (V)	1500 DC (IEC)
Overcurrent Protection Rating (A)	30
Protection Class	Class II
Max. Test Load, Push/Pull (Pa)	Front 5400 / Back 2400

Packaging

Container	20GP	40HQ
Pallet Dimensions (mm)	1795*1130*2220	1795*1130*2532
Pieces per Pallet	63	72
Pieces per Container	378	936